

# Office of Naval Research Global 2016 Recruiting Brief

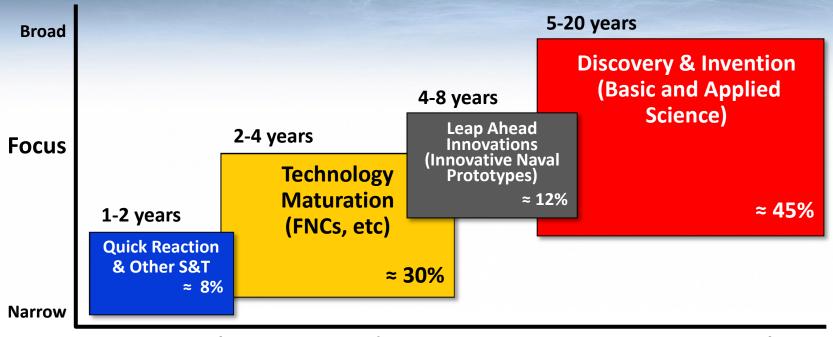
Distribution Statement A: Approved for public release

Steve Smolinski Science Advisor Program Director September 2015

http://www.onr.navy.mil/Science-Technology/ONR-Global/employment-global.aspx



# Warfighting Capabilities Enabled by S&T Investments



**Current Fleet/Force** 

**Fleet/Force in Development** 

**Future Fleet/Force** 

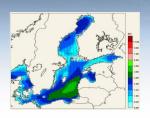








## **Naval S&T Focus Areas**



#### Assure Access to the Maritime Battlespace

- Ocean/Atmospheric Sciences
- Underwater Acoustics
- Ocean Sensing



#### Autonomy and Unmanned Systems

- Robotics
- Machine Learning
- Perception
- · Human Machine Interface



# **Expeditionary and Irregular Warfare**

- Situational Awareness
- Decision Making
- Mobility / Logistics
- Soldier Protection



#### **Information Dominance / Cyber**

- Communications / Information Technology
- Computer Science
- Mathematics / Data Analytics



# Power Projection and Integrated Defense

- Directed Energy
- Energetic Materials



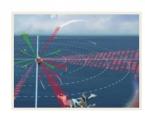
#### Platform Design and Survivability

- Air/Surface/Subsurface Vehicles
- Materials
- · Corrosion / Biofouling
- Manufacturing Technologies



#### **Power and Energy**

- Renewable Energy
- Propulsion
- Power Control
- Thermal Management



## **Electromagnetic Maneuver Warfare**

- EM Propagation & Waveforms
- Sensors and Electronics
- Optical Systems



#### **Warfighter Performance**

- Biomedical / Bioengineeering
- Cognitive / Neural Sciences
- Training Technologies
- Health Protection



# ONR is part of the NR&DE, Providing Full-Spectrum RDT&E

RDT&E Budget (6.1-6.7)						
S&T Budget (6.1-6.3)						
6.1 Basic Research	6.2 Applied Research	6.3 Advanced Technology Development	6.4 Adv. Comp. Development & Prototypes	6.5 System Development & Demonstration	6.6 RDT&E Management Support	6.7 Operational System Development
Naval R&D Establishment (ONR, SYSCOMs and their Warfare Centers, PEOs)						
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# **ONRG Programs**

# International Science Program

23 Associate Directors located in six offices worldwide tasked with finding the best science and bringing it back to the Naval Research Enterprise

## Science Advisor Program

23 Science Advisors embedded in Navy and Marine Corps staffs to connect the warfighter and the Naval Research Enterprise

# Naval S&T Cooperation Program

Developing and maintaining US Navy military to military basic research relationships





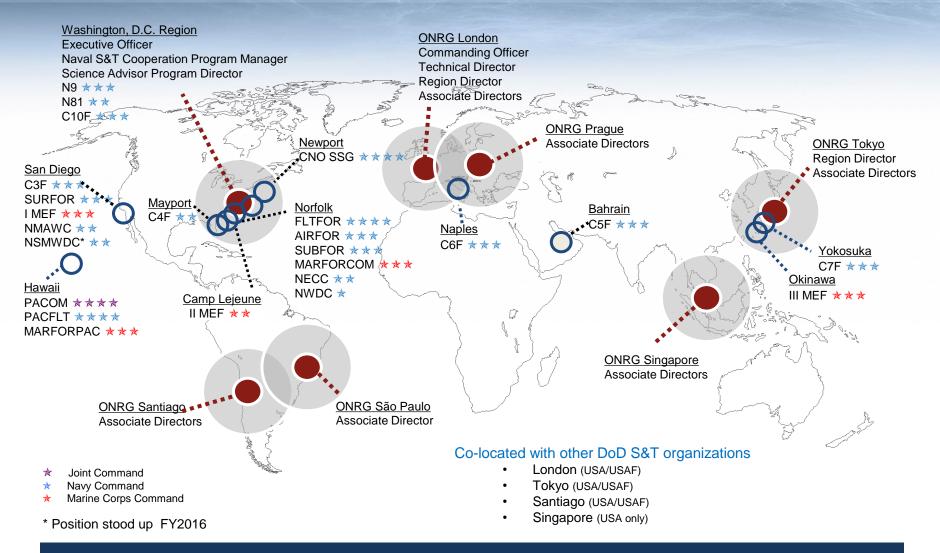


## ONR Global personnel positioned across the world:

- Science Advisor Program (23 Science Advisors)
  - Chief of Naval Research's Ambassadors to the U.S. Naval Fleet Force
  - Assigned to U.S. Navy and USMC commands as S&T expert advisors
  - Predominantly Masters level engineering scientists experienced with the Naval Research Enterprise (NRE) and DOD acquisition process
- International Science Program (23 Associate Directors)
  - Global technology scouts for the ONR and Naval Research Enterprise
  - Assigned to ONR Global's regional offices in Singapore, London, Prague, Tokyo,
     Santiago, & Sao Paulo
  - Predominantly PhD level scientists well-versed in basic and applied research
- Naval S&T Cooperation Program (3 Int'l Program Officers)
  - International Partnership Builders between ONR/NRL and foreign defense counterpart organizations
  - Assigned to ONR HQ (Arlington, VA)
  - Predominantly Masters/PhD level engineering scientists experienced with the Naval Research & Development Enterprise (NR&DE), DOD acquisition process, and applied research



## **Global Presence**



## We Operate Forward



**Articulate** Fleet Force S&T needs and requirements to ONR, NRL, NRE

**Communicate** Command issues to CNR, ONR leadership and Program Officers

**Serve** as ONR on site rep during Fleet Force exercises and demonstrations

**Lead** S&T planning & experimentation processes to focus on meeting critical needs, then assist in transition of key technologies to the Warfighter



## CNR's Ambassadors to the Fleet!



# Science Advisor Requirements/Attributes

- Apply through USAJOBS (Vacancy Announcement Dec 2015 Jan 2016)
- Contact Existing Science Advisors, talk to your lab/warfare center SA Program Manager
- Most are senior engineers & scientists with over 10 years of practical experience working on Fleet Force Systems (Aircraft, Ship, Submarines, Components) & Processes
- Have Experience Interacting and Briefing Flag/General Officers and SES
- Have a working knowledge of ONR, NRE, and DoD Acquisition Process
- Provide an Endorsement Letter from your "Home" Command Due: 12 January 2016
  - Approves you applying to become an ONR SA
  - Home command agrees to take you back at equal or greater pay, position at end of tour
- Must Have a **TS SCI Clearance** at the start of the assignment
- Must Be a Self-Starter, Highly Motivated, Agent of Change, and have a Positive Attitude
- Strong Communication Skills
- Can maintain a sense of humor under high stress situations
- Customize your resume to address SA unique attributes; be honest not modest!



## **Associate Directors Strive To**

**Act** as a tech broker linking ONR, NRL, and the NRE with International S&T

**Identify** disruptive S&T in order to avoid Naval technical surprise

**Gain** enhanced awareness of S&T through direct, regular contact with international colleagues

**Initiate** and manage grants to provide tangible links between foreign scientists and their US Naval counterparts

**Provide** ONR forward presence with global innovators and technologists



### CNR's Global S&T Scouts!



## **Required**

- Strong technical credentials
- In-depth experience in performing basic or applied research
- Ability to network/interface in a tech broker role
- US citizenship
- Ability to travel extensively

## **Preferred**

- PhD in relevant field
- Experience with ONR/NRE
- Foreign language capability
- International S&T experience

Associate Director candidates should apply to ONR Global's HR Manager. Send resumes/transcript to CNREURAFSWA-ONRG-APPLICATIONS@eu.navy.mil

Position announcements are posted on ONR Global external website:

http://www.onr.navy.mil/Science-Technology/ONR-Global/employment-global.aspx



# International Program Officers Strive To

**Serve** as CNR's action officer to coordinate & manage ONR's international S&T partnerships

**Engage** with foreign defense organizations to identify & develop collaborative projects that solve Naval capability gaps

Interface throughout ONR & NRL;

Gain exposure across the S&T portfolio

**Connect** across USG (OPNAV, NIPO, AF/Army/DARPA, OSD, DOS, OSTP, etc)









## **Required**

- Strong technical credentials
- Interest in technical broker role
- Ability to network/interface
- Strong Communication Skills
- Self-Starter, Highly Motivated,
   High Energy, Positive Attitude

## **Preferred**

- Experience Interacting and Briefing Flag/General Officers and SES
- Experience with ONR/NRE
- International S&T experience
- TS SCI Clearance

International Program Officer candidates should apply to ONR Global's HR Manager. Send resumes to CNREURAFSWA-ONRG-APPLICATIONS@eu.navy.mil

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# Potential Vacancies in Summer 2016\*

### **Science Advisor:**

- NAVAIRFOR (Norfolk, VA)
- C3F (San Diego, CA)
- NECC (Little Creek, VA)
- CNO SSG (Newport, RI)
- I MEF (Camp Pendleton, CA)

### **Associate Director:**

- Autonomy and Unmanned Systems (London)
- Expeditionary & Irregular Warfare (London)
- Information Dominance (London)
- Synthetic Biology (London or Tokyo)
- Electromagnetic Maneuver Warfare (Tokyo)
- Power Projection & Integrated Defense (Singapore)
- Global Tech Awareness Asia (Singapore)
- Global Tech Awareness S. America (Sao Paulo or Santiago)
- Global Tech Awareness Central/Eastern Europe (Prague)





<sup>\*</sup> New SAs/ADs in place July/Aug 2016



# Potential Vacancies in Summer 2017\*

### **Science Advisor:**

- MARFORPAC (Hawaii)
- OPNAV N81 (Washington DC)
- OPNAV N9 (Washington DC)

- NAVSUBFOR (Norfolk)
- C6F (Naples, IT)
- C7F (Okinawa)

#### **Associate Director:**

- Platform Design and Survivability (Singapore)
- Global Technical Awareness Middle East/ N. Africa (London)
- Global Technical Awareness S. America (Sao Paulo)
- Global Technical Awareness S. America (Santiago)

## **International Program Officer (tentative):**

- Asia-Pacific and Latin America
- Europe, Middle East, and North Africa



<sup>\*</sup> Tentative projection of positions



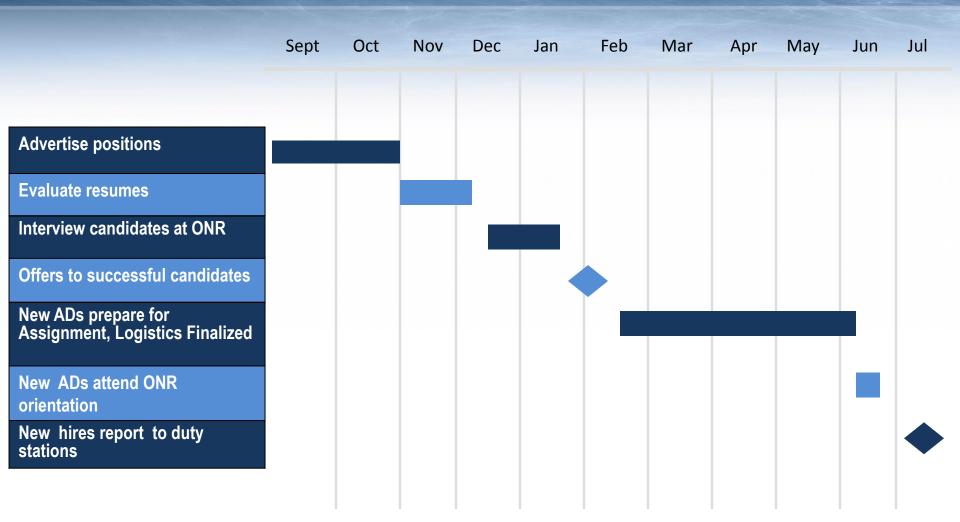
## **FY 16 ONRG SA Selection Process**



These dates projected as of 24 September 2014



# **FY16 ONRG AD Selection Process**



These dates projected as of August 2015



# One Week Orientation at ONR prior to your Assignment (June)

- Meet/Interact with Other SA/ADs, ONR Department Heads and Program Managers
- Coaching on Key Communication Tools
- Administrative Requirements

#### Collaboration with SA and AD Communities

- ONRG Technical Meeting
- Navy/Industry Technical Reviews
- Build Friendships and Contacts that last a lifetime

# Technical Director and Science Advisor Program Director Sounding Boards, Guidance

**Peer Mentorship Program** 





# SA/AD/IPO Science & Technology Development Opportunities

### **Scientist to Fleet/Field Program**

- Phenomenal developmental benefits for DOD personnel and affiliates
- Invigorates passion for developing, deploying, and supporting innovative solutions
- First-hand perspective of the end user requirements and operating environment
- Fosters future collaboration opportunities between commands
- Ship/Submarine tours; USMC and other field exercises

#### **Industry Tours**

- Up to week-long tours for Science Advisors focused on a geographic region
- First-hand exposure to a full range of production facilities, labs and future technologies
- Foster Science Advisor Community networking and collaboration







# Sample SA Project

### **Technology Insertion**

- CG III MEF identified US/Republic of Korea (ROK) problems during Ulchi Freedom Guardian (UFG) 13 exercise.
- The Science Advisor invited MARCORSYSCOM to bring a new technology to the Ssang Yong 14 exercise for field testing which enabled several software changes/upgrades during the exercise and greatly increased system capability and force interoperability.
- The Science Advisor's ability to identify a promising solution and facilitate its use in an exercise gave the system developers invaluable access to foreign communications radios in an operational environment.
- Impact a Deliberate Universal Needs
   Statement to warrant future funding for the capability, and improving the Common Operational Picture.



#### **Participants**

ONRG Science Advisor: Kate Mangum



# Sample AD Project

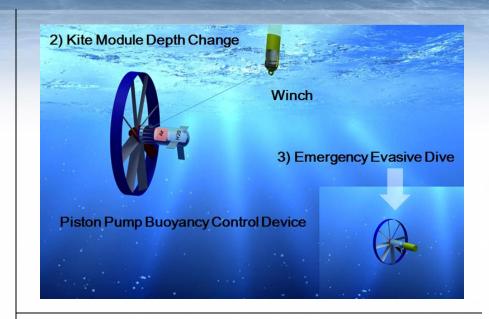
# **Autonomous Submersible Buoy System Utilizing Renewable Ocean Energy**

#### **Objectives**

- Development of autonomous system for
  - Moorless non-drifting buoy platform (Auto-pilot)
  - 2) Submerge in emergency
  - 3) Harvesting and utilizing of ocean renewable energy

#### **Importance**

- Autonomous mobilized robotic buoy could relocate on demand
- The ocean energy harvesting system could serve as a power source to Navy's ocean systems such as mobilized buoy, AUV, ASV and ships.
- Autonomous surface platform could serve for various sensor payload such as HF Radar



#### **Participants**

- Korea: Dr. Son-Cheol Yu, Pohang Institute of Science and Technology
- <u>US Participants</u>: Dr. Peter Cho, ONR 33; Mr.
   Scott Littlefield, DARPA HYDAR Program; Dr.
   Gerry Borsuk, NRL
- ONRG Associate Director: Joon Choe



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2015-2016

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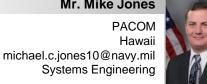
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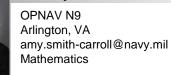


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## 2015-2016 ONR Global Naval S&T Cooperation Program

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#### Dr. Ryan Zelnio

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# Summary

Science Advisors, Associate Directors, and International Program Officers Provide a **Threefold** Return on Investment:

- Serving Naval Commands and Fostering International Collaboration
- Providing a Critical Link to between Operating Forces/International Scientific Community and ONR/NRE
- Gaining a "hands-on" experience with Fleet Force operations and International Science Community which you can leverage for the remainder of your careers

Science Advisor Vacancy Announcement (USA Jobs) on the street ~ **Mid- December** 

Associate Director Positions Advertised (ONR Website) ~ now - October



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USA JOBS: <a href="https://www.usajobs.gov/">https://www.usajobs.gov/</a>